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09/412,100	10/04/1999	ZHONG-MIN WEI	21829/31-(EB)	9211

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EXAMINER

ROBINSON, HOPE A.

ART UNIT	PAPER NUMBER
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1653

DATE MAILED: 07/26/2002

14

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.  
**09/412,100**

Applicant(s)  
**Wei et al.**

Examiner  
**Hope Robinson**

Art Unit  
**1653**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on May 9, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 30-38 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 30-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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### **DETAILED ACTION**

1. Applicant's response to the Office Action mailed November 6, 2001 in Paper No. 12 on May 9, 2002 is acknowledged.

#### ***Claim Disposition***

2. Claims 10-29 and 39-47 have been canceled. Claims 1, 2, 4-7, 9, 30, 33 and 36 have been amended. Claims 1-9 and 30-38 are pending.
3. The following grounds of rejection are or remain applicable:

#### ***Oath/Declaration***

4. The Oath/Declaration filed May 9, 2002 is objected to because inventor Hao Fan signed the oath/declaration with the date "3/29/03". In addition, the inventor Jennifer Niggemeyer on the oath/declaration filed November 18, 1999 is now listed as "Jennifer Stephens on the oath/declaration filed May 9, 2002 and the record does not indicate the reason for the change nor is there a request to make such a change (note also that the addresses are also different). It is noted that applicant is requesting the addition of two

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inventors Steven Beer and Ron Laby, however, the request has not been processed yet as the substitute oath/declaration is defective. It is suggested that applicant submit another oath to rectify the above issues.

***Information Disclosure Statement***

5. The information disclosure statement filed on February 9, 2000 still fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP 609 because there are items listed on the information disclosure statement that are missing from the application. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. A line has been drawn through the following items on the information disclosure statement: items 1-11, 13, 15-33, 35-105 and 108-163.

6. Applicant's comments in the response is noted, however, the references cannot be considered as they are missing, therefore, resubmission of the reference is needed.

***Claim Rejections - 35 U.S.C. § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 1-9 and 30-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 as amended is indefinite because the claim recites “and/or” and it is unclear if the slash mark means “and” or just “or”. It is suggested that the slash mark be deleted from the claim and only one of those terms is recited. The claim is also indefinite for the recitation of “controlling insects” as this terminology is insufficient to convey applicant’s invention, is applicant referring to the control of insect infestation or preventing insects from contacting plants to do damage?

Claims 30, 33 and 36 are indefinite as the methods recite a “applying a fragment of hypersensitive response elicitor protein or polypeptide” and the methods do not recite a step as to how the protein is being applied. Does applicant intend “applying” to mean “administering” or “treating”, if so the claims should be amended to clearly recite the intended meaning.

8. Regarding the rejections under 35 U.S.C. 112, second paragraph applicant’s amendments and arguments were not sufficient to overcome this ground of rejection. Note that claim 1 as amended is rejected under this statute for the reasons stated above. Further, claims 30, 33 and 36 remain indefinite as to the term “applying”. The response on page 40 indicates that the fragments may be applied to plants (i.e., the leaves, stems, roots) using high or low pressure spraying, injection etc., however, this is not recited in the claim and the limitations of the specification

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cannot be read into the claim. It is suggested that applicant use the terms in the specification such as injecting, spraying etc. Thus, the rejections remain.

***Claim Rejections - 35 U.S.C. § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

9. Claims 1-9 and 36-38 remain rejected under 35 U.S.C. 102(a) as being anticipated by Zitter (WO 98/37752, September 3, 1998).

Zitter teach a method of controlling insects on plants which involves applying a hypersensitive response elicitor polypeptide or protein in a non-infectious form to a plant or plant seed under conditions effective to control insects on the plant or plants produced from the plant seed (claims 36-38). The reference also teach that the polypeptide or protein is derived from *Erwinia*, *Pseudomonas* and *Xanthomonas*, *Erwinia amylovora*, *Pseudomonas syringae*, etc. and mixtures thereof. Zitter further teaches the sequence set forth in SEQ ID NO: 23 with a 100%

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sequence identity, (claims 1-9), see abstract and pages 1-5. Thus, the limitations of the claims are met by this reference.

10. Claims 1-9 and 30-33 remain rejected under 35 U.S.C. 102(a) as being anticipated by Wei et al. (WO 96/39802, December 19, 1996).

Wei teach a method of imparting pathogen resistance to plants comprising applying a hypersensitive response elicitor polypeptide or protein in a non-infectious form to a plant under conditions where the polypeptide or protein contacts the cells of the plant (claims 30-33). Wei also teach the sequence contained in SEQ ID NO: 23. Wei further teaches that the fragment is derived from *Erwinia pseudomonas*, *Xanthomonas* or *Phytophthora*, *Erwinia amylovora* and *Pseudomonas syringae* (claims 1-9). Therefore, the limitations of the claims are met by this reference (see abstract and pages 1-7 of reference).

11. Claims 1-3, 8 and 30-32 remain rejected under 35 U.S.C. 102(e) as being anticipated by Wei et al. (U.S. Patent No. 5,859,324, March 17, 1997).

The claimed invention is directed to an isolated fragment of a hypersensitive response elicitor protein or polypeptide, wherein said fragment does not elicit a hypersensitive response but has other activity in plants. Also the fragment is derived from *Erwinia pseudomonas*, *Xanthomonas* or *Phytophthora*, *Erwinia amylovora* and *Pseudomonas syringae*. Further, the claimed invention is directed to methods of imparting disease resistance to plants, enhancing plant

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growth and a method of insect control. Wei et al. teach a method of imparting pathogen resistance to plants which involves applying a hypersensitive response elicitor polypeptide or protein in a non-infectious form to a plant under conditions where the polypeptide or protein contacts cells of the plant (claims 30-32). Wei et al. Also teach the pathogens *Erwinia amylovora*, *Xanthomonas* and *Pseudomonas syringae* (see claims 1-3 and 8). Thus, the limitation of the claimed invention is met by this reference (see abstract and columns 1-8 and 17).

12. The rejections under 35 U.S.C. 102 remains as applicant's arguments were not persuasive. Page 41 of the response states that the references by " Zitter '752 and Wei '802 describes a method of insect control/and imparting pathogen resistance for plants by applying a hypersensitive response elicitor polypeptide or protein to plants. Applicants also submit that there is no suggestion in Zitter '752 that hypersensitive response elicitor fragments themselves do not elicit a hypersensitive response". This contention is not persuasive as Zitter teach the claimed method and the claimed polypeptide derived from the same genus/species, thus, the claimed properties of the polypeptide are inherent features as they are structurally identical. Note that the same reasoning can be applied to applicant's arguments regarding the reference by Wei '324. Thus, the rejection remains.



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***The Basis For NonStatutory Double Patenting***

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-9 and 30-38 remain provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 and 26-34 of copending Application No. 09/086,118. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present application are directed to an isolated fragment of a hypersensitive response elicitor protein or polypeptide derived from

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*Erwinia*, wherein said fragment consists of a C-terminal fragment of the amino acid sequence of SEQ ID NO: 23 or an N-terminal fragment of the amino acid sequence of SEQ ID NO: 23 and methods directed to controlling insects, enhancing growth and imparting disease resistance by applying the fragment. The copending application is directed to an isolated fragment of a hypersensitive response elicitor protein or polypeptide or full length *Erwinia*, wherein said fragment consists of a C-terminal fragment of the amino acid sequence of SEQ ID NO: 23 or an N-terminal fragment of the amino acid sequence of SEQ ID NO: 23 and methods directed to controlling insects, enhancing growth and imparting disease resistance by applying the fragment. Although the scope of the claims in the two applications differ, the same protein is claimed with the same structure and characteristics. Therefore, the claims in both application are an obvious variation of each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 36-38 remain rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 22-27 of U.S. Patent No. 5,977,060. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims are directed to a method of insect control comprising applying a hypersensitive response elicitor polypeptide or protein wherein said applying includes treatment

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and the treated seeds are planted. Similarly the claimed invention is directed to a method of insect control which includes treatment of the plants during the applying of the protein and planting of the treated seeds. Therefore, the patented claims and the pending claims are an obvious variation of each other.

16. Claims 33-35 remain rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 19-25 of U.S. Patent No. 6,277,814. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims are directed to a method of enhancing growth in plants comprising applying a hypersensitive response elicitor polypeptide or protein in a non-infectious form wherein said applying includes treatment and the treated seeds are planted. Similarly the claimed invention is directed to a method of insect control which includes treatment of the plants during the applying of the protein and planting of the treated seeds. Therefore, the patented claims and the pending claims are an obvious variation of each other.

17. Claims 30-32 remain rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 19-23 of U.S. Patent No. 6,235,974. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims are directed to a method of imparting disease resistance to plants comprising applying a hypersensitive response elicitor polypeptide or protein wherein said

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applying includes treatment and the treated seeds are planted. Similarly the claimed invention is directed to a method of imparting disease resistance which includes treatment of the plants during the applying of the protein and planting of the treated seeds. Therefore, the patented claims and the pending claims are an obvious variation of each other.

18. The above claims remain rejected under 35 U.S.C. 103, Obvious Type Double Patenting. The respond contends that the application '118 and references Zitter '060 and Qiu '814, do not teach or suggest the use of fragments of hypersensitive response elicitors which themselves do not elicit a hypersensitive response in controlling insects. However, this contention is not convincing as the structure of the claimed polypeptide is the same which means the claimed characteristics are inherent. Further, the references used teach fragments of the claimed protein derived from the same organism. Thus, the rejection remains as the claims are an obvious variation of each other.

### ***Conclusion***

19. No claims are allowable.

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20. Applicant's amendment necessitated the new/modified ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

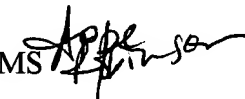
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hope Robinson whose telephone number is (703) 308-6231. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:30 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S.F. Low, can be reached at (703) 308-2923.


Any inquiries of a general nature relating to this application should be directed to the Group Receptionist whose telephone number is (703) 308-0196.

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Papers related to this application may be submitted by facsimile transmission. The official fax phone number for Technology Center 1600 is (703) 308-4242. Please affix the examiner's name on a cover sheet attached to your communication should you choose to fax your response. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG (November 15, 1989).

Hope Robinson, MS 

Patent Examiner

  
KAREN COCHRANE CARLSON, PH.D  
PRIMARY EXAMINER